



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/043,336	01/14/2002	Arie Sheffer	01/22377	6702

7590

03/03/2006

Martin D. Moynihan  
PRTSI, Inc.  
P. O. Box 16446  
Arlington, VA 22215

EXAMINER
----------

PIERCE, JEREMY R

ART UNIT	PAPER NUMBER
----------	--------------

1771

DATE MAILED: 03/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/043,336	<b>Applicant(s)</b> SHEFFER, ARIE	
	<b>Examiner</b> Jeremy R. Pierce	<b>Art Unit</b> 1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7, 15, 31-39 and 100-102 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 15, 31-39 and 100-102 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

1. Applicant's amendment filed on December 22, 2005 has been entered. Claims 18-21 and 40-42 have been cancelled. Claim 1 has been amended. New claims 100-102 have been added. Claims 1-7, 15, 31-39, and 100-102 are currently pending. The amendment to claim 1 is sufficient to overcome the prior art rejections set forth in sections 4-8 of the last Office Action because Slimak et al. (U.S. Patent No. 6,303,234) fail to teach the thickness of the fabric material, which is a newly recited claim limitation.

### ***Claim Objections***

2. Claim 2 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 2 recites "said material is a fibrous material." However, parent claim 1 already recites the that the material is a "fabric material." Therefore, claim 2 does not further limit claim 1.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-7, 15, 31-39, and 100-102 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Independent claims 1, 101, and 102 all recite the "a fabric material of between about 0.4 and about 7 mm." However, support is not found for the upper limit of 7 mm for the fabric thickness. Applicant has not pointed out where this limitation is supported by the Specification.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-5, 7, 15, 31, 33-39, and 100-102 are rejected under 35 U.S.C. 103(a) as being unpatentable over Slimak et al. (U.S. Patent No. 6,303,234) in view of Giesemann (U.S. Patent No. 5,431,996).

Slimak et al. provide a waterglass coating to a paper or cloth material (column 1, lines 18-28). The material maintains perviousness to air because the sodium silicate penetrates the porous material and forms microscopically thin glassy layers (column 2, lines 59-64). A porous structure allows air to enter.

Slimak et al. is silent with respect to the thickness of the fabric material.

Giesemann also discloses a composite article formed from nonwoven natural cellulosic materials coated with a fire resistant water glass (column 2, lines 13-47). Giesemann discloses the thickness of the fibrous material as between 0.5 and 1 mm (column 2, line 23). Since Slimak et al. is silent with respect to thickness, it would have been necessary, and therefore obvious to a person having ordinary skill in the art at the time of the invention to use a fabric with a thickness of between 0.5 and 1 mm in order to create a product useful in building and construction material, as taught by Giesemann.

Slimak et al. do not disclose that the weight is increased by a factor between 1.1 and about 4 upon coating. However, Slimak et al. do recognize a great variety of coating concentrations that may be used. Slimak et al. teach using a range between 0.04 and 400 g of sodium silicate per kilogram of water (Abstract). Slimak et al. also teach that the amount of coating used on the fabric is a result effective variable. Slimak et al. disclose soaking the samples in the solution for longer periods of time allows for an increase in waterglass coating on the samples (column 28, lines 48-64). The flammability of the composite would be affected by altering the amount of coating on the fabric. It would have been obvious to a person having ordinary skill in the art at the time of the invention to coat the material so that the weight does not increase by a factor of between 1.1 and 4 in order to avoid producing a bulky and heavy material that is without practical use, since Slimak et al. disclose varying the coating concentration and it has been held that discovering an optimum value of a result effective variable involves only

routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Similar reasoning applies to claims 37-39.

Although Slimak et al. do not explicitly teach the limitation of an NRC greater than 0.80 or greater than 0.85 (claim 100), it is reasonable to presume that said limitations are inherent to the invention. Support for said presumption is found in the use of similar materials (i.e. cellulosic fabric material) and in the similar production steps (i.e. coated with waterglass) used to produce the building material. The burden is upon the Applicant to prove otherwise. *In re Fitzgerald*, 205 USPQ 594. In the alternative, the claimed noise reduction coefficient would obviously have been provided by the process disclosed by Slimak et al. because Slimak et al. teach varying the amount of coating on the fabric depending on the desired use.

With regard to claims 2-4, Slimak et al. teach using cotton fabric (column 10, line 1). With regard to claim 15, Slimak et al. teach using nonwoven fabric (column 30, lines 61-64). With regard to claims 5 and 7, Slimak et al. do not disclose the fibrous material to be made from a cellular structure. Giesemann discloses a composite article formed from nonwoven natural cellulosic materials coated with a fire resistant water glass (column 2, lines 13-47). Giesemann teaches various cellular materials that may be used (column 2, lines 24-47) and also discloses using recyclable material (column 1, line 63 and Example 5). It would have been obvious to a person having ordinary skill in the art at the time of the invention to use the cellular and recycled materials of Giesemann in Slimak et al., since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended

use. *In re Leshin*, 125 USPQ 416. With regard to claims 31 and 33-36, Slimak et al. do not teach adding a flame-retardant agent into the coating. Giesemann discloses a water soluble fire retardant present in the coating an amount of 40 percent by weight (Example 1). It would have been obvious to a person having ordinary skill in the art at the time of the invention to use the additional flame-retardant agent of Giesemann in the coating of Slimak et al. in order to improve flame resistance. With regard to claims 101 and 102, Slimak et al. disclose using the composite in many types of building applications, including walls and roofs (See column 4). It would have been obvious to a person having ordinary skill in the art at the time of the invention to use the composite of Slimak et al. in a wall structure or a ceiling structure in order to derive the benefits of fire protection taught by Slimak et al.

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Slimak et al. in view of Giesemann and further in view of Riker (U.S. Patent No. 5,405,555).

While Slimak et al. is directed improving cellulosic materials (column 1, line 51), the reference fails to teach rayon or viscose. Riker teaches that rayon, like cotton, is a suitable combustible cellulosic material (column 3, lines 43-52). It would have been obvious to a person having ordinary skill in the art at the time of the invention to use rayon in Slimak et al., since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use.

8. Claims 31-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Slimak et al. in view of Giesemann and further in view of Kaneko et al. (U.S. Patent No. 3,963,547).

Slimak et al. do not teach adding a flame-retardant agent into the coating. However, such practice is well known. Kaneko et al. disclose adding fire retardant agent to waterglass coating solution (See examples and claims). It would have been obvious to a person having ordinary skill in the art at the time of the invention to use the additional flame-retardant agents of Kaleko et al. in the coating of Slimak et al. in order to improve flame resistance.

9. Claims 1-5, 15, 37, and 100-102 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fredriksson (U.S. Patent No. 5,206,081) in view of Theoret et al. (U.S. Patent No. 6,514,889).

Fredriksson discloses a sound absorbing fiber slab comprising cellulosic fibers which are bonded together using a polymeric silicate (Abstract). The silicate is added to the fibers in an amount of up to 20% by weight (column 6, line 4). This would cause an increase in weight by a factor of 1.2.

Fredriksson do not teach the thickness of the fabric. Theoret et al. disclose nonwoven material useful for sound and thermal insulation (Abstract). Theoret et al. teach that the thickness of sheet material useful in residential or commercial building structures is between 1 and 15 mm (column 4, lines 30-34). It would have been obvious to a person having ordinary skill in the art at the time of the invention to make the fabric of Fredriksson with a thickness of between 1 and 15 mm in order to provide an insulation material that finds use in residential and commercial building structures, as taught by Theoret et al.



Although Fredriksson does not explicitly teach the limitation of an NRC greater than 0.80 or greater than 0.85 (claim 100), it is reasonable to presume that said limitations are inherent to the invention. Support for said presumption is found in the use of similar materials (i.e. cellulosic fabric material) and in the similar production steps (i.e. coated with alkali silicate) used to produce the building material. The burden is upon the Applicant to prove otherwise. *In re Fitzgerald*, 205 USPQ 594. In the alternative, the claimed noise reduction coefficient would obviously have been provided by the process disclosed by Fredriksson. Fredriksson teaches that the coated cellulose fabric is able to convert acoustic energy into kinetic energy (column 4, lines 55-65). Therefore, optimizing sound absorption would be obvious to one of ordinary skill in the art. With regard to claims 2-5 and 15, Fredriksson teaches using a cellulosic fiber web (column 1, line 61). With regard to claims 101 and 102, although Fredriksson does not disclose any particular application for the sound absorbent and heat insulating fiber slab, application of fibrous insulation products to both walls and ceilings are well known as intended uses of such products. It would have been obvious to a person having ordinary skill in the art at the time of the invention to use the slab of Fredriksson in a wall structure or a ceiling structure in order to derive the benefits of sound absorption and heat insulation in a building, as taught by Fredriksson.

10. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fredriksson in view of Theoret et al. and further in view of Riker.

Fredriksson fails to teach rayon or viscose. Riker teaches that rayon, like cotton, is a suitable combustible cellulosic material (column 3, lines 43-52). It would have been

Art Unit: 1771

obvious to a person having ordinary skill in the art at the time of the invention to use rayon in Fredriksson, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use.

11. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fredriksson in view of Theoret et al. and further in view of Giesemann.

Fredriksson does not disclose using recycled materials. Giesemann discloses a composite article formed from nonwoven natural cellulosic materials coated with a fire resistant water glass (column 2, lines 13-47). Giesemann teaches various cellular materials that may be used (column 2, lines 24-47) and also discloses using recyclable material (column 1, line 63 and Example 5). It would have been obvious to a person having ordinary skill in the art at the time of the invention to use the cellular and recycled materials of Giesemann in Fredriksson, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use.

12. Claims 31-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fredriksson in view of Theoret et al. and further in view of Kaneko et al.

Fredriksson does not teach adding a flame-retardant agent into the coating. However, such practice is well known. Kaneko et al. disclose adding fire retardant agent to waterglass coating solution (See examples and claims). It would have been obvious to a person having ordinary skill in the art at the time of the invention to use the additional flame-retardant agents of Kaleko et al. in the coating of Slimak et al. in order to improve flame resistance.

***Response to Arguments***

13. Applicant's arguments filed December 22, 2005 have been fully considered but they are not persuasive.

14. Applicant argues that the present invention is distinct from the prior art because it is a specific choice of materials for a specific use, namely sound absorption. Applicant asserts that Slimak et al. make no mention of sound absorption. While it is true that Slimak et al. is directed towards making a fire retardant fibrous product, this does not mean that the material of Slimak et al. would not have the claimed sound absorption properties. First, Slimak et al. use the same materials, i.e. a fibrous cellulosic product impregnated with water glass. Therefore, it can be presumed that any resulting properties that come about from using the same materials would be inherent to the material. Second, many prior art references that disclose insulation comprising fibrous materials coated with water glass teach the resulting properties of both flame resistance and sound absorption are present (See U.S. Patent No. 4,710,309 to Miller, Abstract; U.S. Patent No. 5,766,745 to Smith et al., Abstract; U.S. Patent No. 5,206,081 to Fredriksson, Abstract). Although Slimak et al. focus on the flame resistance property, there is still reasonable grounds to presume that sound absorption also exists because the materials are similar.

15. Applicant argues that the present invention relates to a very specific composite, which has unique sound absorption properties. However, the independent claims recite coating the fabric so that the weight is increased by a factor of about 1.1 to about 4.

Art Unit: 1771

This would equate to coating the fabric in an amount of 10% to 400% by weight. This range seems very broad, and counters Applicant's claim that the invention, as claimed, relates to a very specific composite.

16. Applicant argues that Gieseemann does not realize the potential for sound absorption properties of his claimed composite. However, Gieseemann is not used alone in rejecting Applicant's claims, nor is Gieseemann used as the primary reference in the obviousness rejections. Applicant also argues Riker makes no mention of water glass and Kaneko et al. make no mention of sound absorption. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

### ***Conclusion***

17. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the


Art Unit: 1771

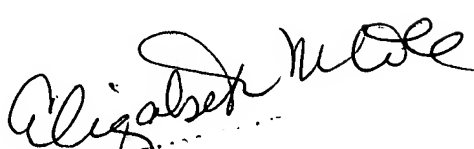
shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeremy R. Pierce whose telephone number is (571) 272-1479. The examiner can normally be reached on normal business hours, but works flextime hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Jeremy R. Pierce  
February 22, 2006

  
ELIZABETH MOORE  
PRIMAR